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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/838,171	04/20/2001	Katsuhiko Torii	02-046	9035

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EXAMINER

ELKASSABGI, HEBA

ART UNIT PAPER NUMBER

2834

DATE MAILED: 11/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/838,171

Applicant(s)

TORII ET AL.

Examiner

Heba Elkassabgi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,8-23 is/are pending in the application.
- 4a) Of the above claim(s) 3 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2,4-5,812,15-18- is/are rejected.
- 7) ☒ Claim(s) 6,13,14 and 19-21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tilli et al. (U.S. Patent 5907885) and in further view of Peck et al. (U.S. Patent 5111098) and Hamman (U.S. Patent 4227104).

Tilli et al. discloses in figure 1 a motor having a worm gear (worm shaft) (63) around an armature shaft (rotor shaft) (15), within a motor case (13). The armature shaft (driving -side rotor)(15) is connected coaxially to the driven-side rotor (worm shaft)(63) and a coupling member (91). A housing (AA) surrounds the coupling member and a driving and driven side rotors. The driving side rotor includes a shaft portion that protrudes from the housing with a space defined between the housing and the coupling member. Furthermore, the coupling member (91), for the purpose of the present invention is to be more acceptable of tolerance variations, such as externally supplied forces from car wash, bumpy roads, or the like. However, Tilli et al. does not disclose a rotational sensor with sensor magnets around the rotor and a Hall sensor and a rotation of a shaft in relation to the worm shaft.

Peck et al. discloses in Figure 7 a rotational sensor (speed sensor) (210) that includes sensor magnets (530 and 532), which are arranged integrally with the rotatable shaft (spindle) (214), for the purpose of controlling rotational speed.

Hamman discloses that the rotation of the shaft (58) is to the worm shaft (56) in order to prevent the transmission of the rotation of the shaft to the worm shaft

It would have been obvious to one of ordinary skill in the art to modify. Tilli et al. with Peck et al. in order to improve the controlling rotational speed and Hamman to prevent the transmission to the rotation of the shaft to the worm shaft.

In regards to Claim 11 Tilli et al, Peck et al, and discloses the claimed invention except for the material choice of the driving-side rotator is made of a resin material. It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose a material which is functional for the structure, since it has been held that the provision of adjustability, where needed, involves only routine skill in the art. *In re Stevens*, 101 USPQ 284.

In regards to Claim 12 Tilli et al, Peck et al. and discloses the method of forming the device is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight.

Claim 2 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tilli et al. (U.S. Patent 5907885) and in further view of Peck et al. (U.S. Patent 5111098) and Rivin et al. (U.S. Patent 6003193).

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Tilli et al. discloses in figure 1 a motor having a worm gear (worm shaft) (63) around an armature shaft (rotor shaft) (15), within a motor case (13). The armature shaft (driving –side rotor)(15) is connected coaxially to the driven-side rotor (worm shaft)(63) and a coupling member (91). A housing (AA) surrounds the coupling member and a driving and driven side rotors. The driving side rotor includes a shaft portion that protrudes from the housing with a space defined between the housing and the coupling member, the coupling member permits a certain distance between the radial displacement and the a difference in the tilt angle to f the rotation of the shaft with the worm shaft. Furthermore, the coupling member (91), for the purpose of the present invention is to be more acceptable of tolerance variations, such as externally supplied forces from car wash, bumpy roads, or the like. However, Tilli et al. does not disclose a rotational sensor with sensor magnets around the rotor and a Hall sensor and a rotation of a shaft in relation to the worm shaft.

Peck et al. discloses in Figure 7 a rotational sensor (speed sensor) (210) that includes sensor magnets (530 and 532), which are arranged integrally with the rotatable shaft (spindle) (214), for the purpose of controlling rotational speed.

Rivin et al. Disclose that the rotatable shaft (57) transmits the worm shaft (59) and in order to prevent the rotation of the worm shaft (59) to the rotation of the shaft (57).

It would have been obvious to one of ordinary skill in the art to modify. Tilli et al. with Peck et al. in order to improve the controlling rotational speed and Rivin et al. in order to prevent the rotation of the worm shaft to the rotation of the shaft.

Claim 4 and 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tilli et al. (U.S. Patent 5907885) and in further view of Peck et al. (U.S. Patent 5111098).

Tilli et al. discloses in figure 1 a motor having a worm gear (worm shaft) (63) around an armature shaft (rotor shaft) (15), within a motor case (13). The armature shaft (driving –side rotor)(15) is connected coaxially to the driven-side rotor (worm shaft)(63) and a coupling member (91). A housing (AA) surrounds the coupling member and a driving and driven side rotors. The driving side rotor includes a shaft portion that protrudes from the housing with a space defined between the housing and the coupling member. Furthermore, the coupling member (91), for the purpose of the present invention is to be more acceptable of tolerance variations, such as externally supplied forces from car wash, bumpy roads, or the like. However, Tilli et al. does not disclose a rotational sensor with sensor magnets around the rotor and a Hall sensor

Peck et al. discloses in Figure 7 a rotational sensor (speed sensor) (210) that includes sensor magnets (530 and 532), which are arranged integrally with the rotatable shaft (spindle) (214). The sensor magnet (230 and 532) are arranged to cover a space that is defined by the coupling member and communicate with the coupling member, for the purpose of controlling rotational speed.

It would have been obvious to one of ordinary skill in the art to modify. Tilli et al. with Peck et al. in order to improve the controlling rotational speed.

In regards to claim 5, Tilli et al. and Peck et al. discloses the claimed invention except for the outer diameter of the sensor magnet being greater than an outer diameter of the space between the housing of the coupling member and the shaft portion. It

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would have been an obvious matter of design choice to modify the structure of the motor case, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tilli et al. (U.S. Patent 5907885) and in further view of Peck et al. (U.S. Patent 5111098) and Klappenbach et al. (U.S. Patent 6201326).

Tilli et al. discloses in figure 1 a motor having a worm gear (worm shaft) (63) around an armature shaft (rotor shaft) (15), within a motor case (cup-shaped yoke) (13). The motor case (yoke) has brush holders 925) which face the interior of the yoke. The armature shaft (driving –side rotor)(15) is connected coaxially to the driven-side rotor (worm shaft)(63) and a coupling member (91). A housing (AA) surrounds the coupling member and a driving and driven side rotors. The driving side rotor includes a shaft portion that protrudes from the housing with a space defined between the housing and the coupling member. Furthermore, the coupling member (91), for the purpose of the present invention is to be more acceptable of tolerance variations, such as externally supplied forces from car wash, bumpy roads, or the like. However, Tilli et al. does not disclose a rotational sensor with sensor magnets around the rotor and a Hall sensor.

Peck et al. discloses in Figure 7 a rotational sensor (speed sensor) (210) that includes sensor magnets (530 and 532), which are arranged integrally with the rotatable shaft (spindle) (214), for the purpose of controlling rotational speed.

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Klappenbach et al. discloses in Figure 3 a Hall sensor (37), for the purpose of detecting the position of the armature.

It would have been obvious to one of ordinary skill in the art to modify Tilli et al. with Peck et al. in order to improve the tolerance level of the present invention from external force and Klappenbach et al. for detecting the position of the armature shaft.

Claim 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tilli et al. (U.S. Patent 5907885) and in further view of Peck et al. (U.S. Patent 5111098) and Hamman (U.S. Patent 4227104) and Rivin et al. (U.S. Patent 6003193).

Tilli et al. discloses in figure 1 a motor having a worm gear (worm shaft) (63) around an armature shaft (rotor shaft) (15), within a motor case (13). The armature shaft (driving –side rotor)(15) is connected coaxially to the driven-side rotor (worm shaft)(63) and a coupling member (91). A housing (AA) surrounds the coupling member and a driving and driven side rotors. The driving side rotor includes a shaft portion that protrudes from the housing with a space defined between the housing and the coupling member, the coupling member permits a certain distance between the radial displacement and the a difference in the tilt angle to f the rotation of the shaft with the worm shaft. Furthermore, the coupling member (91), for the purpose of the present invention is to be more acceptable of tolerance variations, such as externally supplied forces from car wash, bumpy roads, or the like. However, Tilli et al. does not disclose a rotational sensor with sensor magnets around the rotor and a Hall sensor and a rotation of a shaft in relation to the worm shaft.

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Peck et al. discloses in Figure 7 a rotational sensor (speed sensor) (210) that includes sensor magnets (530 and 532), which are arranged integrally with the rotatable shaft (spindle) (214), for the purpose of controlling rotational speed.

Hamman discloses that the rotation of the shaft (58) is to the worm shaft (56) in order to prevent the transmission of the rotation of the shaft to the worm shaft

Rivin et al. Disclose that the rotatable shaft (57) transmits the worm shaft (59) and in order to prevent the rotation of the worm shaft (59) to the rotation of the shaft (57).

It would have been obvious to one of ordinary skill in the art to modify. Tilli et al. with Peck et al. in order to improve the controlling rotational speed and Hamman to prevent the transmission to the rotation of the shaft to the worm shaft and Rivin et al. to prevent the rotation of the worm shaft to the rotation of the shaft.

Allowable Subject Matter

Claim 6, 13, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 19- 21 are allowed. Prior art does not indicate a cup-shaped yoke that is open ended and a brush holder that is secured to the in an open end of the yoke and holds a power supply brush on its first axial side of the brush holder facing the interior of the yoke.

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Response to Arguments

Applicant's arguments with respect to claims 1-23 have been considered but are moot in view of the new grounds of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heba Elkassabgi whose telephone number is (703) 305-2723. The examiner can normally be reached on M-Th (6:30-3:30), and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3431 for regular communications and (703) 305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

HYE
November 15, 2002


